

CLAIMS

1. An adhesive system comprising, (a) an etherified amino resin, (b) a polymer prepared from one or more ethylenically unsaturated monomers, (c) a curing agent, and (d) a polyvinyl alcohol.

5 2. An adhesive system according to claim 1, wherein the components a) – d) are present in the following indicated amounts in weight %, based on the solids of the adhesive system:

- a) from 40 to 85 weight %,

- b) from 10 to 50 weight %,

10 - c) from 5 to 20 weight %, and

- d) from 1 to 10 weight %.

3. An adhesive system according to claim 1, wherein the etherified amino resin has a degree of etherification of 10 to 75 %.

15 4. An adhesive system according to claim 1, wherein the etherified amino resin is an etherified melamine-formaldehyde or an etherified melamine-urea-formaldehyde resin.

5. An adhesive system according to claim 1, wherein the polymer is a homopolymer or copolymer prepared from one or more monomers selected from the group consisting of vinyl esters, alkyl esters of acrylic and methacrylic acid, mono- and dialkyl esters of alpha, beta-unsaturated dicarboxylic acids, alpha beta-unsaturated
20 carboxylic acids, styrene- butadiene and derivatives thereof, and mixtures thereof.

6. An adhesive system according to claim 5, wherein the polymer is a homopolymer or copolymer based on vinyl acetate.

7. An adhesive system according to claim 1, wherein the polymer comprises post-crosslinking groups.

25 8. An adhesive system according to claim 7, wherein the post-crosslinking groups are incorporated into the polymer by copolymerising one or more ethylenically unsaturated monomers with at least one monomer comprising at least one post-crosslinking group.

9. An adhesive system according to claim 8, wherein the polymer is a copolymer
30 of vinyl acetate and N-methylol-acrylamid.

10. An adhesive system according claim 1, wherein the curing agent is a carboxylic acid.

11. An adhesive system according to claim 10, wherein the carboxylic acid is formic acid or maleic acid.

35 12. An adhesive system according to claim 1 for use in gluing of wood-based products.

13. A hardener composition for gluing systems of the amino resin type comprising, (b) a polymer prepared from one or more ethylenically unsaturated monomers, said polymer containing post-crosslinking groups, (c) a carboxylic acid and (d) a polyvinyl alcohol.

5 14. A hardener composition according to claim 13, wherein the polymer is a homopolymer or copolymer prepared from one or more monomers selected from the group consisting of vinyl esters, alkyl esters of acrylic and methacrylic acid, mono- and dialkyl esters of alpha, beta-unsaturated dicarboxylic acids, alpha beta-unsaturated carboxylic acids, styrene- butadiene and derivatives thereof, and mixtures thereof.

10 15. A hardener composition according to claim 14, wherein the polymer is a homopolymer or copolymer based on vinyl acetate.

15 16. A hardener composition according to claim 13, wherein the post-crosslinking groups are incorporated into the polymer by copolymerising one or more ethylenically unsaturated monomers with at least one monomer comprising at least one post-crosslinking group.

 17. A hardener composition according to claim 16, wherein the polymer is a copolymer of vinyl acetate and N-methylol-acrylamid.

 18. A hardener composition according claim 13, wherein the carboxylic acid is formic acid or maleic acid.

20 19. A hardener composition according to claim 13, wherein the components b) – d) are present in the following indicated amounts in weight %, based on the solids of the hardener composition:

- b) from 25 to 70 weight %

- c) 10 to 50 weight %

25 - d) from 4 to 30 weight %

 20. A hardener composition according to claims 13 for use in the formulating of an amino resin based adhesive system.

 21. A method of application of an adhesive system according to claim 1, wherein each of the components a) – d) is applied separately onto the surface to be glued.

30 22. A method of application of an adhesive system according to claim 1, wherein component a) is applied separately and components b)-d) are mixed before application and applied as one component e) onto the surface to be glued.

 23. A method of application of an adhesive system according to claim 1, wherein all of the components a) –d) are mixed together at the moment of application and applied
35 as one component onto the surface to be glued.

24. A method of application of a hardener composition according to claim 13, wherein each of the components b) – d) is applied separately onto the surface to be glued.

5 25. A method of application of a hardener composition according to claim 13, wherein all of the components b) – d) are mixed before application and applied as one component e) onto the surface to be glued.